

**Supplemental  
Notice of Allowability**

Application No.

10/580,325

Examiner

PATRICIA L. HAILEY

Applicant(s)

SCHUMACHER ET AL.

Art Unit

1793

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants' Statement of Substance of Interview, filed on January 26, 2010.
2. ☒ The allowed claim(s) is/are 1,3-6,8-12 and 14-22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                                |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date ____     | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|  | 9. <input type="checkbox"/> Other ____.  |

/PATRICIA L. HAILEY/  
Primary Examiner, Art Unit 1793



***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 10, 2009, has been entered.

Applicants' submission includes an amendment, in which claims 1, 3-6, and 8-11 were amended, claims 2, 7, and 13 were canceled, and new claims 21 and 22 were added.

Claims 1, 3-6, 8-12, 14-22 are now pending in this application.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Documents were filed on May 24, 2006.

***Election/Restrictions***

3. Claims 1, 3-6, 8-12, 14, 15, 18, and new claim 22 are directed to an allowable product. Pursuant to the procedures set forth in MPEP § 821.04(B), claims 16, 17, and 19-21, directed to the process of making or using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on July 1, 2008, is hereby withdrawn.** In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Claims 1, 3-6, 8-12, 14-22 are now under consideration by the Examiner.

#### ***Withdrawn Rejections***

The following rejections of record have been withdrawn in view of Applicants' amendments and persuasive traversing arguments:

1. The 103(a) rejection of claims 1, 2, 7, 13-15 and 18 as being unpatentable over Pratsinis et al. (U. S. Patent No. 5,698,177); and
2. The 103(a) rejection of claims 1-15 and 18 as being unpatentable over Zhang (U. S. Patent No. 7,217,407).

#### **EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

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1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Stefan Koschmieder on October 22, 2009, and via fax on January 20, 2010.

*The application has been amended as follows:*

*a. Please re-write claim 1 as follows:*

*Claim 1 (Currently Amended): A flame-hydrolytically produced titanium dioxide powder present in aggregates of primary particles, wherein*

- *the titanium dioxide powder has a BET surface of [20 to 200] 40 to 60 m<sup>2</sup>/g and*
- *the half width HW, in nanometers, of the primary particle distribution has values between*  
$$HW \text{ (nm)} = a \times BET^f \text{ where } a = 670 \times 10^{-9} \text{ m}^3/\text{g and}$$
$$-1.3 \leq f \leq -1.0$$
- *the proportion of aggregates with a diameter of more than 45 μm is in a range from 0.0001 to 0.05 wt.%, and*  
*[wherein the BET surface is in a range from 40 to 60 m<sup>2</sup>/g.]*  
*wherein the titanium oxide powder [comprises at least 20% rutile] has an anatase/rutile ratio of 2:98 to 98:2.*

*b. In the Specification, on page 12, at line 20, please insert the following:*

*--BRIEF DESCRIPTION OF THE DRAWINGS*

*FIG. 1 A shows an arrangement for carrying out one embodiment of the invention in an apparatus including a mixing chamber;*

*FIG. 1 B shows a portion of an apparatus used to carry out one embodiment in which steam and air are introduced into a mixing chamber;*

*FIG. 1 C shows an open reaction chamber in which secondary air is aspirated;*

*FIG. 2 shows how half width and BET properties of the examples correlate with certain ranges.--*

Claim 1 has been amended to avoid recitation of two different BET surface areas, and to prevent new matter from being incorporated into the claim. Support for the “anatase/rutile ratio” limitation can be found in claim 13 as originally filed.

The Specification has been amended to include a Brief Description of the Drawings.

***Allowable Subject Matter***

5. Claims 1, 3-6, 8-12, 14-22 are allowed.

***Reasons for Allowance***

6. The following is an examiner's statement of reasons for allowance:

7. The prior art of record does not teach or suggest the claimed flame-hydrolytically produced titanium dioxide powder exhibiting the claimed properties of BET surface, half width HW, proportion of aggregates with a diameter of more than 45  $\mu\text{m}$ , and anatase/rutile ratio.

The cited references of record do not teach or suggest a titanium dioxide exhibiting these claimed properties.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/  
Primary Examiner, Art Unit 1793  
January 29, 2010